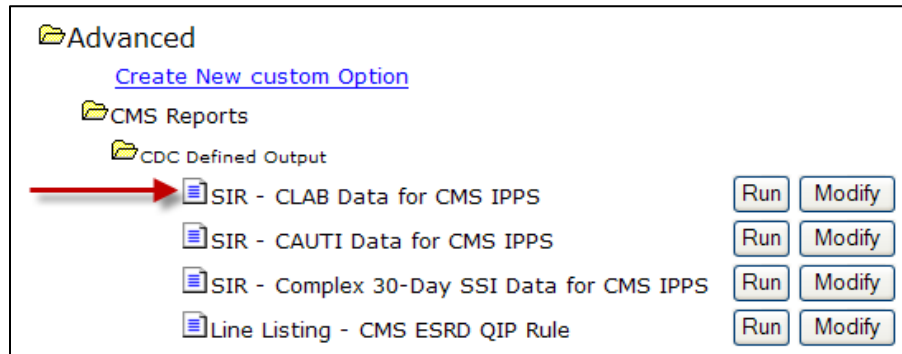## Using the "SIR - CLAB Data for CMS IPPS" Output Option

The NHSN Analysis Output Option, "SIR - CLAB Data for CMS IPPS" was created in order to allow facilities to review those data that would be submitted to CMS on their behalf. It's important to keep in mind the following as you begin to use this report:

a. These data will only be submitted for those facilities that are participating in the CMS IPPS Hospital IQR Program, as indicated by their CCN recorded in NHSN.

b. This report will only include **in-plan CLABSI data for each adult, pediatric, and neonatal ICU beginning with 2011 data**. Other locations/earlier years for which you may have reported CLABSI data will <u>not</u> be included in this output.

c. **IMPORTANT!** Beginning with 2012 data, facilities must appropriately **Report No Events** for those locations and months for which no events of each type under surveillance were identified.

d. This output option represents an SIR for each hospital, <u>not</u> each CCN. If your hospital shares a CCN, this SIR will only represent the data that your hospital has contributed to the overall SIR for all hospitals that share the CCN. You may wish to use the Group feature in NHSN to obtain a single SIR for all the hospitals that share a CCN. More information about the Group feature can be found here: http://www.cdc.gov/nhsn/library.html#group .

e. The data in this report will represent data current as of the last time you generated datasets. Note that data in the Provider Participation Report are not updated simultaneously with your data in NHSN. Data changes made in NHSN will be reflected in the next monthly submission to CMS. **EXCEPTION:** Quarterly data are frozen as of the final submission date for that quarter (e.g., Q1 data will be frozen as of 1am ET on August 16th); any changes made to these data in NHSN after the final submission deadline will not be reflected in later months on the Provider Participation Report or on Hospital Compare. If you have specific questions about the data appearing on your APU dashboard, please contact your QIO or the QIOSC at hrpqiosc@iaqio.sdps.org.

f. To learn more about the standardized infection ratio (SIR), including how it is calculated for CLABSI data, please see the SIR Newsletter at: http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010SE_final.pdf .

g. The information in this document should be used in conjunction with the document, "Helpful Tips for CLABSI Reporting for the Centers for Medicare and Medicaid Services' Hospital Inpatient Quality Reporting Program (CMS Reporting Program)", available at: http://www.cdc.gov/nhsn/PDFs/CMS/Helpful-Tips-for-CLABSI-Reporting.pdf .

Example of the "SIR – CLAB Data for CMS IPPS": Interpretation and Data Checking

Before running this output option, remember to generate your datasets for the most up-to-date data reported to NHSN by your facility! To generate datasets, go to Analysis > Generate Data Sets, then click "Generate New".

1. After selecting Analysis > Output Options, navigate through the following folders: Advanced > CMS Reports > CDC-Defined Output. Click "Run" next to "SIR – CLAB Data for CMS IPPS", as shown below:

2. By default, the results will appear in an HTML window. If a second window does not pop-up, please be sure to check your pop-up blocker and allow pop-ups from *.cdc.gov.

   Within the output, there will be 4 tables, each described below:

   i. SIR CLAB Data for CMS IPPS – **By OrgID**

   The first table represents an overall, single SIR for your facility, per calendar-year quarter, as shown below. This is the information that will be submitted to CMS for each IPPS-participating facility, as indicated by the facility's CCN.

National Healthcare Safety Network
SIR for CLAB Data for CMS IPPS - By OrgID
As of: July 25, 2011 at 8:13 AM
Date Range: CLAB_RATESALL summaryYr After and Including 2011
if (((bsiPlan = "Y") AND (locationType IN ("CC", "CC_N"))))

orgid=10000

orgid	summaryYQ	infCount	numExp	numCLDays	SIR	SIR_pval	SIR95CI
10000	2011Q1	3	3.535	2057	0.849	0.5291	0.175, 2.480
10000	2011Q2	0	0.260	124	.	.	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
Source of aggregate data: NHSN Report, Am J Infect Control 2009;37:783-805
Data contained in this report were last generated on July 25, 2011 at 8:10 AM.

Notice that the SIR will not be calculated if the number of expected infection (numExp) is <1. Using the above table, one can conclude the following:

  a. This facility identified 3 CLABSIs (infCount) among 2057 central line days (numCLDays) during the 1st quarter of 2011 (2011Q1).
  b. The number of CLABSIs expected (numExp), based on national data, was 3.535.
  c. The overall SIR for this facility during this time period is 0.849, indicating that this facility observed approximately 15% fewer infections than expected.
  d. Based on the p-value (SIR_pval) and the 95% confidence interval (SIR95CI), the SIR for this facility is not statistically different from 1, indicating that there were not significantly fewer infections identified than were expected.

ii.   SIR CLAB Data for CMS IPPS – **By OrgID/Location Type**

The second table provides an SIR for each quarter and location type (e.g., ICU, NICU). "ICU-OTHER" in this table will represent all adult and pediatric ICUs with reported in-plan CLABSI data during each time period; NICU will include all level 2/3 and level 3 neonatal ICUs with reported in-plan CLABSI data during each time period.

National Healthcare Safety Network
SIR for CLAB Data for CMS IPPS - By OrgID/Location Type
As of: July 25, 2011 at 8:13 AM
Date Range: CLAB_RATESALL summaryYr After and Including 2011
if ((((bsiPlan = "Y") AND (locationType IN ("CC", "CC_N")}))

orgid=10000

orgid	locationtype	summaryYQ	infCount	numExp	numCLDays	SIR	SIR_pval	SIR95CI
10000	ICU-OTHER	2011Q1	2	2.600	1686	0.769	0.5183	0.093, 2.778
10000	ICU-OTHER	2011Q2	0	0.260	124	.	.	
10000	NICU	2011Q1	1	0.935	371	.	.	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
Source of aggregate data: NHSN Report, Am J Infect Control 2009;37:783-805
Data contained in this report were last generated on July 25, 2011 at 8:10 AM.

The data in this table can be interpreted similar to the first SIR table, described above. Note that this table will allow you to see the how many CLABSIs and device days were reported in each location type, as defined by CDC.

iii.   SIR for CLAB Data for CMS IPPS – **By OrgID/CDC Location Code**

The third table provides an SIR for each quarter and CDC location (e.g., adult medical ICU, pediatric medical/surgical ICU). Note that if your facility reports data for more than one location of the same CDC type (for example, 2 medical ICUs), these locations will be grouped into one SIR in this table.

National Healthcare Safety Network
SIR for CLAB Data for CMS IPPS - By OrgID/CDC Location Code
As of: July 25, 2011 at 8:13 AM
Date Range: CLAB_RATESALL summaryYr After and Including 2011
if (((bsiPlan = "Y") AND (locationType IN ("CC", "CC_N"))))

orgid=10000

orgid	loccdc	summaryYQ	infCount	numExp	numCLDays	SIR	SIR_pval	SIR95CI
10000	IN:ACUTE:CC:C	2011Q1	2	0.800	400	.	.	
10000	IN:ACUTE:CC:CT	2011Q1	0	1.800	1286	0.000	0.1652	, 2.049
10000	IN:ACUTE:CC:MS	2011Q2	0	0.260	124	.	.	
10000	IN:ACUTE:CC:NURS	2011Q1	1	0.935	371	.	.	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
Source of aggregate data: NHSN Report, Am J Infect Control 2009;37:783-805
Data contained in this report were last generated on July 25, 2011 at 8:10 AM.

iv. SIR for CLAB Data for CMS IPPS – **By OrgID/Location**

The fourth table provides an SIR for each quarter and individual location within your facility. This is also the only table that will allow you to see how many months of data are included in each location's quarterly SIR.

For example, looking at the CMICU location below, we can see that the "months" column shows a value of 2, indicating that only 2 months of data have contributed to the quarterly SIR for this location. This will indicate that the SIRs in this output option are incomplete and additional data checking is needed.

National Healthcare Safety Network
SIR for CLAB Data for CMS IPPS - By OrgID/Location
As of: July 25, 2011 at 8:13 AM
Date Range: CLAB_RATESALL summaryYr After and Including 2011
if (((bsiPlan = "Y") AND (locationType IN ("CC", "CC_N"))))

orgid=10000

orgid	location	summaryYQ	months	infcount	numExp	numcldays	SIR	SIR_pval	SIR95CI
10000	3 MS	2011Q2	1	0	0.260	124	.	.	
10000	CMICU	2011Q1	2	2	0.800	400	.	.	
10000	CTICU	2011Q1	3	0	1.800	1286	0.000	0.1652	, 2.049
10000	NICU 3	2011Q1	3	1	0.935	371	.	.	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.
Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.
Source of aggregate data: NHSN Report, Am J Infect Control 2009;37:783-805
Data contained in this report were last generated on July 25, 2011 at 8:10 AM.

3. What can be done if data are incomplete, as in the CMICU example above, or if the number of infections or central line days is incorrect?
   i. Check that the summary data for this location have been entered for each month in the quarter. This includes central line days and patient days.
   ii. If summary data have been entered, double-check your monthly reporting plan for each month in the quarter. Check to make sure that each location is included in your monthly reporting plan, with the CLABSI box checked.
   iii. If summary data have been entered and no CLABSIs have been identified, be sure to check the 'Report No Events' box on the summary record, next to the Central Line days count.
   iv. If the number of infections is less than you reported *and* you've confirmed that the summary data have been entered in-plan, double check the BSI events in NHSN: if central line is entered as "No", the event is *not* considered a CLABSI and will not appear in this report. Note that you can edit the event with the correct information.

REMEMBER: If you have made any changes to your data, regenerate your datasets in order to review your output options with the most up-to-date data in NHSN.